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URDU FOR ADULTS

[A PHONETIC METHOD]

By

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K I T A B I S T A N

ALLAHABAD

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CONTENTS

	Page
Foreword	5
Introduction	7
I. The Urdu alphabet	9
II. Theoretical considerations : Basic principles Physical and psycho- logical factors	16
III. Method : Classroom equipment Stages of instruction —Numerals and arithmetic	20

ILLUSTRATIONS AND CHARTS

	<i>Facing page</i>
Specimen handwriting of pupils	7
Letters of the Alphabet —I. Consonants	11
„ „ —II. Vowels	12
The human brain (diagrammatic)	16
Drawings for finger practice (Fig. A.)	21
Class wall-charts on long vowels (Fig. B.)	21
Word-picture charts —I. Long Vowels	23
„ „ —II. „ „	25
„ „ —III. Short Vowels	26
Revolving disc for classroom	28
Symbols or signs used in Urdu	30
Numerals	32

FOREWORD

My plea for bringing this brochure to the notice of readers interested in adult education is the shamefully low percentage of literacy in India, which has a direct bearing on the health and prosperity of the country as a whole.¹ I believe that literacy campaigns should be extensively organised and zealously carried on till the blot of illiteracy is removed. This conviction has urged me in my effort to evolve a quick method of teaching Urdu to adults.

During 1929 and 1939 I carried out experiments in teaching on selected groups of adults of different social grades, and by learning a great deal from the pupils themselves realised their needs and perfected the method which is the subject of this brochure.

In 1929 and again in 1939 His Highness Nawab Hamidullah Khan of Bhopal graciously permitted me to carry out these experiments in the State Central Jail, and expressed satisfaction at the results achieved with the perfected method on the second occasion.²

During 1936 and 1938 I was encouraged to test the method in the Doon Public School by Mr. A. E. Foot, the indefatigable Headmaster of the school. Very soon after the opening of this school in 1935, Mr. Foot had planned out a scheme of adult literacy amongst the employees and he whole-heartedly fell in with my proposal that I might supervise the work of the Urdu section of the adult classes. I thankfully acknowledge that the facilities offered to me by the Headmaster and the school Adult Education Committee, unstintingly and without reservation, were in a large measure responsible for developing and improving the method.

In 1937, at the suggestion of Dr. Zakir Husain Khan and Prof. M. Mujib of the Jamia Millia, Delhi, and with the co-operation of the Maktaba Jamia, a brief note in Urdu on the *rationale* of the method and a primer were published.

¹ Between 1911 and 1931 the percentage of literacy in India increased from 7% to 8% only. Those interested in the progress of literacy should consult the comparative graphic chart in Laubach's *Towards a Literate World*.

See specimen handwriting of one of the pupils given opposite p. 7.

In 1939, two continuity readers, viz., '*Koela*' and '*Kisan*' were also brought out. I am glad to know that the Literacy Committee of the U. P. Christian Council have in mind to bring out shortly a Hindi version of these two readers.

Several of my friends have expressed the opinion that a detailed note on the method, in English, would be instructive to many of those interested in adult literacy. At the same time, after reading Dr. Laubach's excellent book '*Towards a Literate World*',* I thought it worth while to lay before those conversant with English an alternative method which can claim to be a '*shorter circuit*' than the one he has suggested for Urdu.

I am indebted to many of my friends, specially to Prof. Nayyar Laique Ahmad of Bombay, Prof. M. Mujib of Delhi and Mr. K. K. Mehrotra of Allahabad University, who have helped me with valuable suggestions and advice in the compilation of this brochure. Prof. A. H. Siddiqi of Lucknow University very kindly got the diagram, given on Page 16, prepared for me in his department. Mr. A. E. Foot has allowed me to take the photographs of the revolving disc and the numerals, given on pages 28 and 32, the originals of which were executed in the Arts and Crafts sections of the school according to my directions. The Word-Picture charts given on pages 23 to 26, were prepared by my son, Mahmuduzzafar Khan.

Lastly, I may mention that some alterations in the orthographic form of sounds have already been introduced in Hyderabad by the Anjuman Taraqqi-Urdu. I have adopted some of these notations and have added a few others which seemed to me necessary. For transliteration of Urdu sounds into English, I have followed the notation given in Webster's Dictionary (4th edition), as the international phonetic system has still only a very small circle of supporters in India.

27th June, 1940

Saiduzzafar

فونڈنہ ۱۴

مٹھارے کتنے لڑکے
لڑکیاں نہیں۔ اپنی عمر
اور سب بچوں کے نام
آہ عمر لکھو۔

میرے ایک لڑکا اور ایک لڑکی ہے
میری عمر پچیس سال کی ہے اور میرے لڑکے کی
عمر چار سال اور لڑکی کی عمر چھ سال کی ہے
میرا نام قلندر خان عرف طوٹے اور میرے لڑکے
کا نام دلاور خان عرف ڈلوٹے
اور میری لڑکی کا نام قرن نشان ہے

پھول کے پیڑ ٹم
کیا کیا جانتے ہو۔

گلاب! مددو کامنی! گلے بانس
گلمیندی! گلٹہ! گلچاندنی
گلبندہ! مورچمیلی! موگرہ
جواہی! چنمیا! چمیلی

Specimen handwriting
of an adult (without
dictation) after 28 one-
hour lessons.

بارت میں تین ہزار
پچاس آدمی آئے۔
تھیر کی پیالیان ایک
ہزار نو سو باسٹھ تین۔
تو کتنی پیالیان اور
بنا چاہیے۔

۲۹ : ۸۸۸
۱۹ : ۸۸۸
۱۰ : ۸۸۸
جو
ایک ہزار اٹھاسی پیالیان اور بنا چاہیے
قرن کا ٹوٹا اٹھ سو ان سو

چاند ماہ

دسمبر ۲۰۰۵

۲۸ اکتوبر ۱۹۳۵ء

Specimen hand-
writing of a
European Lady
after ten one-
hour lessons.

گلاب صاحبہ ۱۵۵ صاحبہ نسیم
میں افسوس کہہ لی ہوں کہ جو کاغذ آپ نے دیا تھا
تم ہو گیا ہے۔ بہ آرزو کے کاغذوں میں رکھا تھا اور اب
نہیں ملتا۔
مجھے اُمید ہے کہ نسیم صاحبہ اچھی سونٹکی
آپ کی سادقہ
سلوی یہ فٹ

INTRODUCTION

Having regard to the structural, functional and psychological differences in the child and the adult man, the writer after some experiments, spread over a number of years, found that the method here outlined gave the best results. To this method Urdu could be well adapted after overcoming some drawbacks in the script, as will be evident from the following observations:—

- (1) Some prisoners in a jail, as also some garden coolies in a school could read and write and also do sums in simple division after thirty-five one-hour lessons.*
- (2) A European lady, who had recently arrived in India, and who had no knowledge of Urdu, could write a simple letter after ten one-hour lessons.†
- (3) Some boys of a school, who knew Hindi and English but did not know the Urdu script, could read and write Urdu script after ten ½-hour lessons. On this occasion, one or two Urdu teachers of the school were also present at the demonstrations, and testified to the efficacy of the method.

The writer is aware that some of his assumptions may not be in keeping with the accepted conventions, and may even be looked upon as extravagant. But if teachers and calligraphists would give the following remarks their careful consideration, and try the method without undue bias, they would perhaps agree that the adults of this country can learn to read and write any one of the spoken languages in the Urdu script by this method without waste of time or effort.

I. THE URDU ALPHABET

The Urdu characters and script both have special features:—

(1) The characters are adaptations from the Arabic alphabet, and are written from right to left.

(2) Many of the letters have similar forms, but are distinguishable by dots or symbols placed either above or below these forms.*

(3) There are several letters in the alphabet which have approximately the same sound values. There are also some letters which represent such sounds as are peculiar to the Arabic and Persian languages.

(4) Each letter in a written word either remains separate and distinct from the neighbouring letter, or is written jointly with it, according to definite rules laid down by traditional practice. For this reason, the letters which are written jointly have several forms, viz., one or more short conjunct forms used in the beginning or middle of a word, and one full form used at the end of a complete word, or at the end of the broken part or parts of a word. These broken parts may not necessarily be syllabic. In all cases the distinctive dots or symbols remain intact, and are the main guide to the special sounds of such letters.

(5) There are three long vowels which are *letter forms*, and three short vowels which are *symbols*. Of these symbols two are placed above or below the letter, and one usually remains suppressed. There are eleven inflexions of sound notes possible with these six vowels.

The Urdu Alphabet Phonetically Considered

Spoken words are a mixture of definite sounds of a sustained character which are produced by those parts of the human frame comprised in the term '*Organ of speech*'. Without going into technical details regarding the

*It may be mentioned that the spread of Arabic into foreign lands necessitated this reform. In Persia and India, where Arabic characters were adopted for writing, certain additional sounds peculiar to the spoken language of these countries were reproduced, in script, by adding dots or an unused symbol to existing Arabic characters.

structure or dispositions of the different parts of this organ we may analyse here only the spoken words in speech and their synthetic representation in script. A child hearing spoken words repeatedly, picks up the component parts of words by a slow process of self-education. This he does by bringing under control the various parts of his own organ, until by imitation and practice he can easily produce the same kind of word-sounds and also learn their significance when uttered. By and by words quickly following one another with their proper intonation and accentuation are correctly understood by a native as meaningful, whereas they strike a foreigner as a meaningless jargon indistinguishable from noise.

The correct representation of the spoken words is beset with many difficulties, but these are not so great in the case of a native as in the case of a foreigner; for the latter is not familiar with the sound values of uttered words, much less with the intonation and accentuation which together form the mode of expression. Even when the foreigner has grasped the component parts of a word in script he very often utters it in a distorted way, because he confuses it with the intonation to which he is habituated.

The letters in an alphabet represent in script the component parts of words in speech. These component parts fall under two categories, *viz.*, an interrupted abrupt sound, and an uninterrupted sound freely flowing for a very short or a somewhat longer period. These are called *Consonants* and *Vowels* respectively. Thus consonants are letters representing distinct sounds in a language, but they are by themselves dormant, until they are rendered mobile by the vowels. It is important that every letter-consonant should represent one sound value, and every letter-vowel should represent not only one direction but the length of the flow of the uninterrupted sound.

The two charts facing pages 11 and 12 are based on these considerations. They give the sound values of consonants and vowels in Urdu and indicate their approximate corresponding sound values in English. An attempt is made to get over some of the difficulties which the beginner usually experiences, and avoid introducing such innovations as may annoy the teacher or the calligraphist. Excepting one or two new symbols all the symbols indicated are in vogue.

I. Letters of the Urdu Alphabet with their sound values

1. Consonants having distinct initial and final forms

(a) Consonants having more than two initial forms

Letter Forms		Equivalent English Sounds		Remarks
Initial	Final	Initial	Final	
ب	ب	bā as in bun	b as in curb	
پ	پ	pā - per	p as in rap	Persian adaptation
ت	ت	tā (soft)	t (soft)	No English equivalent
ٹ	ٹ	tā - tub	t - but	Indian adaptation
ن	ن	nā - nut	n - ton	Has also a final half note
ہ	ہ	hā - hut	h - ah	

(b) Consonants with one or two initial forms

ج	ج	jā - just	j - raj	
چ	چ	chā - churn	ch - witch	Persian adaptation
ک	ک	kā - cur	k - rock	
گ	گ	gā - gut	g - rag	Persian adaptation
ل	ل	lā - lump	l - bell	
س	س	sā - sun	s - gas	
ش	ش	shā - shun	sh - ash	
م	م	mā - must	m - stem	
ف	ف	fā - fur	f - turf	

2. Consonants remaining disjointed with each other or with any subsequent letter in a word. The letters ڍ, ڏ noted under vowels I are also in this group

ڍ	ڍ	ḍā (soft) - thus	ḍ (soft)	Rarely used in English
ڏ	ڏ	dā - dirt	d - bird	Indian adaptation
ر	ر	rā - rub	r - bur	
ڙ	ڙ	ṛā (hard) no English equivalent		Indian adaptation
ز	ز	zā - zarf	z - buzz	

3. Consonants introduced as primary letters, though formed by two combined letters (Indian adaptation). The letters of this group form conjuncts without altering their form at any stage

بھ = bhā	پھ = phā	تھ = thā (soft)	ٹھ = thā (hard)	جھ = jhā	چھ = chhā
کھ = khā	گھ = ghā (soft)	ڏھ = ḍhā (soft)	ڙھ = ṛhā (hard)		

4. Consonants that have similar sounds with the above letters, or such sounds which are not ordinarily required in Urdu spoken language

ح = h	خ = kh (hard)	غ = gh (hard)	ع = ā (approx.)	ق = āh (approx.)
ص = ṣ	ط = ṭ (soft, approx.)	ظ = ṭh (approx.)	ذ = ḍ (soft, approx.)	ک = k or q (hard)

Note: -A dot below an English letter means a softer note, and a line above the letter a harder note than the usual English sound of the letter.

Chart No. I—Consonants

In Urdu, consonants are written differently in different situations. Some retain their full form in all situations; others change their forms when they are used as initial, medial or final letters in a word. The initial form is in most cases the first or head part of the letter with its distinctive formation along with any dot or dots or symbol which signifies its distinctive sound; the final form is usually one of the initial forms to which a line or a peculiar curve is added on.

Advantage is taken of the difference in the initial and final forms of letters in script to voice every initial letter with the first short vowel, and consider the short vowel sign suppressed. From this point of view every initial consonant letter, even without a sign, gives a mobile consonant sound note, and is easily recognised by its short conjunct form; whereas the final consonant letter gives its inherent dormant consonant sound and is recognised by its full letter form.

It has been noted on the chart that the groups are chosen on the basis of the number of initial forms of letters. In addition to this, Group 2 includes those letters which behave differently in script to the rest of the letters in other groups in joining with neighbouring letters of a whole word. This will be explained later (*see p. 29*). Group 3 is of double consonants with the aspirate *h* which retain their form in all situations in script when used in words. Strictly speaking these are not letters of the Urdu alphabet. But since they are distinct letters of the alphabet in Hindi, and are of common occurrence in Urdu words they have some claim to be looked upon as distinct consonants.* The order of precedence given to the different group is suggested by the relative frequency of letters in easy words which the pupil will practise in script.

Chart No. II—Vowels

I—(i) Vowel Letter Forms considered as Consonant Sounds

Since every initial letter in Urdu script must have a vowel to produce a note, it follows that the initial vowel letters too are subject to this rule. The

*The use of other double consonants as initial letters is not permissible in Urdu words; hence the difficulty in pronouncing and writing correctly such English or Hindi words. This difficulty has been overcome by the suggestion of a new symbol. See p. 32, and Chart p. 30.

first vowel letter ا, corresponding to *a* or *u*, when used initially without a sign has the short vowel sign suppressed like consonants. It cannot be used by itself as an independent part of speech like *a* in a sentence. When this letter is used medially immediately after a vowel (long or short), its form is altered, for then it behaves like any other consonant seeking the aid of a vowel in combining with the following letter. Lastly, this letter is peculiar in not having an inherent sound, and when standing alone by itself it must be given its designation *Alif*.¹

The second vowel letter used initially has a definite inherent sound corresponding to *y*, and in this situation it behaves as a consonant. Since this letter is invariably combined with the following letter the conjunct form of the letter is ي both in the beginning and the middle of a word. When used medially it can act both as a vowel and as a consonant. In some words as in *Bhāyya* (a brother), this letter form aids the preceding letter with its vowel note and at the same time gives out its mobile consonant note with the aid of a vowel following it. This is the only instance, in Urdu, where a letter in script performs functions of a vowel and a consonant at the same time.

The third vowel form و, has a definite inherent sound, corresponding to *o* or *u*, and therefore it can be used initially, medially and finally to produce this sound.² It is very puzzling sometimes to determine whether the letter used in the middle or at the end of a word is the third vowel or the consonant *v*. Hence it is suggested that the form with a solid head, i.e., و, should be used for *v*, and the form with a hollow head, i.e., و, for the vowel. The hollow-headed form is not an innovation, for it is already in use in Arabic script. Besides this, the short vowel sign corresponding to this vowel is the same hollow-headed form in miniature.³

I—(ii) Vowel Letter Forms Considered as Long Vowel Notes

We have indicated above that the three letter forms, looked upon as long vowels, can be used initially only as consonants. Now their behaviour strictly

¹ *Alif* has various other symbolic functions. Thus, if written at the top of an epistle in its curved Arabic form it stands for *Allah*, the all-pervading Supreme Being; in Brahmanic faith it stands for *Īshnu*, the Preserver or Protector. It is also the first numeral in Arithmetic.

² There is no difference in *v* and *u* sounds in Urdu.

³ See Chart II, for the two different forms in script.

II. Letters of the Urdu Alphabet

1. (i) Vowel letter forms considered as Consonants

Letter Form			Corresponding sound in English with examples	Remarks
Initial	Medial	Final		
ا	آ, ع	Nil	ā or ū . . . as in up	To be included in group I (a) of consonants. As an initial letter it must have a long or short vowel; as a medial letter after any vowel its form is changed into ع and it then behaves like a consonant.
ی	ی	Nil	yā . . . as in yes	To be included in group I (a) of consonants Initially it behaves like a consonant; medially it can be used both as a vowel and as a consonant.
و	و	و	wā or vā as in verse	To be included in group 2 of consonants. In Urdu there is no difference between 'v' and 'w' sounds. Can be used as consonant initially, medially and finally. Compare suggested script form of this with in (3) below.

(ii) Long vowel letter forms (see also word Picture Charts I & II)

Medial	Final	Direction.	Corresponding English equivalent sounds with examples			
(1) ا	آ	↑	ā as in far, aha	e.g. کھا	کھان	(khā - eat) (kān - ear)
(2) آ	آ	→	ā .. ale, lay	e.g. لے	تال	(lā - take) (tāl - oil)
† ب	آ	→	ā .. am	e.g. کئے	مین	(kā how many) (mān - I)
ع	ی	↓	ē .. eve, pea	e.g. تین		(tēn three)
(3) ا	و	↙	ō .. old, so	e.g. تول	دو	(tōl - weigh) (dō - two)
† ب	و	↙	ō .. cost	e.g. موت	سو	(mōt - death) (sō - 100)
و	و		ōō .. food, too	e.g. جون	لو	(jōon = june) (lōo - hot wind)

† Suppressed sign employed to indicate the inflexion in sound

2. Short vowel signs and corresponding sounds (See also word Picture Chart III)

ا	—	ā, ū as in up	Sign on top of letter invariably omitted e.g. اب ab - now, باد bad - bad
ب	—	ē .. bet	new sign on top, e.g. بہن (bāhen sister)
پ	—	ī .. bit	sign below letter, e.g. دل (dil - heart)
و	—	ōō .. foot	sign above letter, e.g. ان (ōon - those)

the consonant ڍ.¹ The first gradation should be without any symbol, ڍ; the second gradation should have the same symbol as is used in the second vowel, ڍ̇; the third gradation should have a symbol ڍ̈, which is the reversed form of this letter and is in use in the Arabic script.

II—Short Vowels

These are three symbols placed above or below the mobile letter in place of letter forms. They indicate short jerky notes in the same direction as the long vowel notes. A consonant charged with these symbols becomes mobile but has no value as an independent part of speech by itself. It might strike another dormant consonant, when its mobile sound would be given simultaneously with the ring of the consonant struck. Or it might give its short jerky note separately, while the next consonant, charged with a vowel, would complete the whole word sound with its help.²

The first sign ‘—’ is intended to be placed above a letter. It represents the contracted note similar to the first long vowel note, and corresponds to the English *i* or *u* (in *up*). This sign should be invariably omitted. In this way every conjunct form of a letter, when it occurs initially without a symbol should be considered as a mobile consonant charged with the first short vowel note, while the full form of the same letter should be taken as the dormant consonant.³

We have mentioned that the second long vowel has two directional notes, as indicated by the two final forms of this letter. The current second short vowel sign ‘—’ represents the contracted long vowel *ee* note. It is placed below a letter and the note then given out corresponds to the English *i* (in *bit*). There is no short vowel sign to represent the contracted *ai* note of the long vowel. It is therefore suggested that a new sign ‘—’, placed above a letter, should be used to give a note corresponding to the English *e* (in *bet*).

¹ See p. 12.

² See also Word-picture Chart No. III., on p. 26.

³ (i) The difference in the sound values is illustrated in Chart I, Consonants, p. 11.

(ii) The alternative use of this sign in certain gradations of long vowel notes has been mentioned already.

(iii) The behaviour of the conjunct form in the middle of a word, when it is used without a short vowel sign, will be explained later. See pp. 30 to 32.

The third short vowel sign ‘ُ’, corresponding to the English *oo* (in *foot*), is placed above the letter and has the same appearance in miniature as the long vowel letter form, but with a hollow head, ‘و’. It represents the contracted note given out by the third long vowel.*

It is worth noting that Urdu words do not end in short vowel notes. Every word must either give out a long vowel note at its end, or its final consonant would give out its ringing note when it combines with the preceding long or short vowel.

* Many scribes use the first short vowel sign along with the long vowel and at the same time they habitually omit the other short vowel signs. Both these practices should be discouraged. The first short vowel sign should remain invariably suppressed, and the other short vowel signs should always be shown in all books for beginners.

II. THEORETICAL CONSIDERATIONS

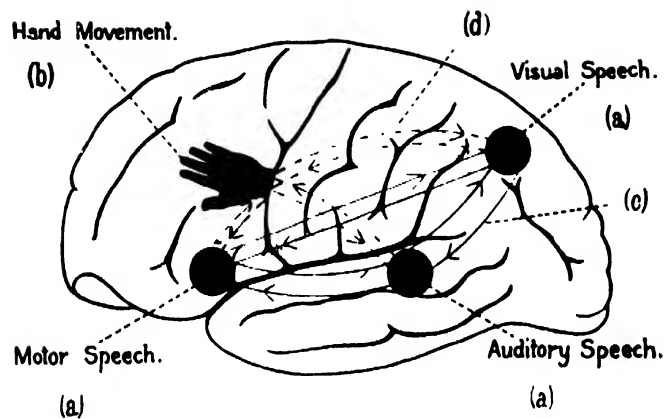
Basic Principles

The first principle on which the method is based is the conviction that since writing is the work of man's *hand*, the holding of the pen and its manipulation in writing should be taken up *first*, for the intention is to make the pupil's eyes and hands both familiar with the construction of letters which give script form to spoken words. It is the same as asking a pupil in carpentry to exercise his hands on the tools, which he will have to manipulate afterwards. The hand-work would no doubt be crude in the beginning, but after he has had instruction and practice in the control of his grip and in the application of requisite force, the manipulation and the toil would become a habit. Each polished surface, each joint, each carving would then be an open book to him, stirring up not only his imitative but also his creative faculties, and becoming sooner or later re-creative and self-satisfying. It has been rightly said by Paul Laucome in *'Histoire comme Science'* that "Every tool is objectified motor habit. Now habit being to action as generalisation is to thought, the tool is the equivalent of the word, that is, the practical role of tools corresponds to the conceptional role of words." It is, therefore, evident that the first step in instruction in reading a *writing* is the preparation of the *hand* for such writing.*

* See diagram of human brain opposite. It will be seen that in the grey matter of the cerebral cortex the centre for hand movement lies very close to the motor speech centre. This is the reason why children when using their hand often protrude their tongue in the early stages of instruction, and many adults in stretching a point during conversation move their hands in various directions.

In an illiterate adult person all the speech centres are already in association with one another. Thus when A sees a house burning and gives the alarm '*Fire*', his visual centre stirs up the motor speech centre with the word '*Fire*'. And when B hears this word at the Fire-station, his auditory centre is stirred up by the word and the picture of '*Fire*' is perceived.

In making the illiterate person literate our object is to associate the pupil's hand centre first with the visual sensations of unfamiliar forms—*letter forms*,—and later on, when the association pathways of these two centres, which have been lying dormant through disuse, become alert and operative the hand centre is associated with the hearing and motor speech centres—*letter sounds*. By repeated practice the association of these centres with the hand becomes so complete that the work is carried out subconsciously. For example, in buttoning a coat



EXTERNAL SURFACE OF HUMAN BRAIN

- (a) Speech centres.
- (b) Centre for hand movement.
- (c) Continuous lines with arrows indicate established pathways.
- (d) Dotted lines with arrows indicate pathways to be established.

The second principle is based on the conviction that the quickest and easiest way to make an illiterate adult literate is to instruct him first in the reading and writing of his *own spoken language*. Now every word in speech is composed of mixed sounds which, on careful analysis, are found to consist of simpler sounds for which the letters of the alphabet are created. The import of the letter then lies in its *phonetic value* and it should be voiced by its distinctive sound on all occasions. At the same time, each sound should be represented by one and only one letter, and every gradation or inflexion in sound note should be clearly indicated by a proper symbol.*

Physical and Psychological Considerations in Adult Education

Since we are concerned here only with adult education and considering the favourable and adverse factors in adult literacy, we propose to skip over three or four decades of the individual's lifetime. We should first take into account the structural, functional and psychological changes that usually occur in persons between the ages of twenty-five and fifty-five years, and devise a rational method for their instruction.

We take it for granted that an individual of this age has had some sort of training during his childhood, youth and adolescence; that his sensory-motor apparatus has been normally functioning and has been instrumental in storing up a certain amount of knowledge, which he applies for his own benefit. Starting with the mastery of the spoken language of his forefathers, with its peculiarities of intonation and accentuation, he has learnt the effect of emotional expression and behaviour upon himself and others, and has indeed marked out a line of action to suit himself and his relationship with others. This may have been brought about by the influences acting on him in his immediate

the fingers have to be directed consciously to carry out the manipulations step by step, but in time, after practice, the process is carried out by the hand subconsciously.

* Some of the letters in the Urdu alphabet have approximately similar sounds, or have such sounds as are not needed in reproducing in script the words in common use in India. It is true that in Urdu literature the use of Persian and Arabic words renders it indispensable that all the letters of the alphabet should be taught. Therefore, without contending that letters having similar sounds are to be omitted altogether from every stage of instruction, the advantage of restricting *one letter for every sound* in the early stages must be kept in mind. From this point of view the correct rendering of sound value by the beginner is of greater account than correct spelling.

neighbourhood, chiefly of his own kith and kin, or it may be the result of a spontaneous urge within him, guiding him to a new course of conduct and action for himself.

Close examination reveals that he cannot handle every kind of work with the same ease and proficiency that he displays in doing a particular type of work. The explanation is that a repetition of a series of sensory impulses of the same kind, their continued reception in a specified region of the grey matter of the cerebral cortex, and release of corresponding motor responses leads not only to a permanent recording of these impulses in the grey matter, but also to the fixing of definite pathways in the correlated parts of the nervous system of the individual. The result is that while the whole correlated mechanism is alert on the well-trodden line of thought and corresponding line of work, those sensory impulses which have to travel over an unused or disused pathway on rare occasions are often passed over without due attention. Thus, as the age of the individual advances the pathways, although present normally, become fainter and fainter, like the disused track to an unfrequented spot. It is a difficult matter to revive these pathways effectively after a lapse of many years. But we might assume *a priori* that frequent practice might tend to re-establish a neglected pathway, although long periods without this practice would render the pathway faint again. For instance, five lectures a week for a year on an unfamiliar subject will show better results than a course of lectures on the same subject given once a week for five years, although the actual time taken in both cases is the same.

Next we have to take into account the age factor—its influence on the normal tissues of the body, which in turn affect body function and even mind disposition. We know that the growth of the body follows a curve, the apex being reached at about twenty-five years. After the age of forty the tissues begin to decline, depending upon many causes which may affect individuals differently. We must not forget to make allowance for this decadence in adults when forecasting results of their progress in any branch of training. After the age of forty the individual normally begins to lose near sight, so that small objects, which were quite clear formerly, now appear blurred. The more delicate parts of the ear may also show signs of deterioration, so that low sounds are not as easily heard as before. The loss of teeth or the non-pliability of muscles

connected with motor speech may affect the correct utterance of spoken words. The stiffness in the finger-joints of individuals, habituated to coarse manual work, may affect proper grip and manipulation when the hand is employed in finer work. Functional and psychological changes also occur through the excessive or defective secretions of certain glands of the body, possibly causing a lowering effect upon his power of comprehension, concentration and memory. It is also possible that his past experiences have introduced certain irritating, distasteful, unpleasant ideas into his conscious mind. And the recurrence of these in his memory from time to time, much as he would wish to forget them altogether, leads to a conflict between his conscious and his subconscious mind. This may seriously affect his normal behaviour, and divert him from a course of action which his conscious mind seeks to pursue.

We will not be wrong in concluding from this subjective scrutiny of the adult that there is a vast difference between him and the child. Hence the technique of instruction must take into account all these factors and aim at overcoming them intelligently and in a sympathetic spirit.

III. METHOD

Class Room Equipment

An airy well lighted room should be provided with a blackboard, chalks, two stools, desks, wall-charts and a pointer¹. The pupils sitting comfortably on the matted floor would need slate, pencil and primer. The slate chosen by the writer during his experiments consisted of a flat ply-wood tray 18" 9", with a rim of $\frac{1}{2}$ " depth. On this tray fine sifted sand was spread, $\frac{1}{2}$ " deep to begin with, and the depth was reduced gradually to almost 1 16", according to the progress exhibited by the pupil. A smoothly rounded stick, 9" long and $\frac{1}{2}$ " in diameter, evenly cut at one end and pointed bluntly at the other, served the purpose of a pencil. The thickness of the pen is reduced, like the layer of sand on the slate, from time to time.² The use of both these materials requires explanation. The advantages are cheapness, permanency and easy manipulation. The writing is visible enough for rough practice, and it can be rubbed out and written any number of times without difficulty or inconvenience. The pen is specially useful in those cases where the pupil has stiff finger joints. The adult has larger fingers than the child and can have firmer grip on a thick pen. He can thus bring into action those muscles of the hand which are specially needed for finer movements of the fingers. After some practice in these movements the attachments of these muscles are loosened and the joints become more pliable. It must also be remembered that as Urdu is written from right to left, the right handed person would have to use his pen with a push requiring a firmer grip than in the case of letters written from left to right, when a pull is mostly needed. Thus a thick pen for a firm grip and the sand as the least resisting surface for writing have a decided advantage for adults.

- ¹ (i) Both stools are for the use of the teacher. One 12" high is for sitting by the pupils, and the other 36" high for sitting by the blackboard.
 - (ii) The writer prefers a light removable bench for placing the reading and writing material in front of the pupils. The height of the desk or bench should be such that the pupils, without stooping, can keep the working material at a distance of 10" to 12" from their eyes.
 - (iii) The charts necessary for constant use are given in Fig. B, p. 21.
- ² A straight, firm, green stick of the above size and thickness should serve the purpose.

Class Work

It cannot be over-emphasised here that the teacher should first forget his superiority, and try to establish relationship with his pupils on terms of equality. He should have infinite patience in his dealings with them, and should be tolerant of the pupil's lack of comprehension. No effort should be spared to banish the formal atmosphere of the school-room and to create, instead, a homely environment in which the teacher and pupil will be perfectly at ease and free to interpret and understand each other's mind without reserve.

Instruction to adults in a class is roughly spread over six stages. Each stage should be thoroughly covered before the next is attempted.

First Stage : Preliminary Steps in Writing Letter Forms

Average Time Taken : Four Periods of One hour each



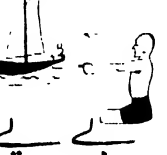
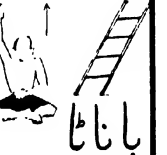



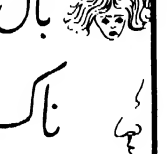
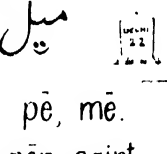
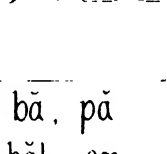
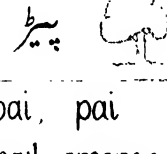
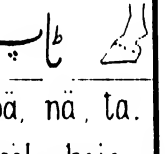
During this stage the pupil first learns how to hold the pen and how to move the fingers in writing. The pen is held firmly between the thumb and the index finger, both of which are very slightly bent in this position. The middle finger lies under the pen and serves only as a support to the lower end of the pen and takes no part in the movements of the pen. The pen is moved up and down or rolled between the two fingers without the aid of the wrist, elbow or shoulder joints. In bad cases these movements have to be practised for two or three minutes every day for a fortnight before any other instruction is undertaken.

The pupil next learns the drawing of various forms and the sequence of several forms in script. In the earlier experiments the writer observed that no existing primers met with the requirements of this instruction. He therefore brought out a primer in three parts. On the first two pages of this primer are given simple drawings of (a) the pen, (b) the curved top of millet-bearing stem, (c) single and combined letter forms.* (a) A thick line representing the pen is drawn perpendicularly on the blackboard by the teacher. The pupil copies this on his slate. Some pupils may not be able to draw it straight. It must not be forgotten that the position of the pen is different when it is held straight up in the hand, when it is drawn on the black-board and lastly when it is drawn

See illustration Fig. A, opposite.

by the pupil on the recumbent slate in front of him. It is, therefore, necessary to impress upon the pupil the significance of the borders of the slate and the board, and the convention of looking upon the erect (perpendicular) line in relation to these borders. Similarly, the precise relationship of the recumbent (transverse) line to the borders has to be explained. Next, we should assist him to understand the mutual relationship of the objects drawn. He should learn to assume that the letter nearest the right-hand border of the board or slate is the first, and that a letter which is sounded first is written first. He will thus begin to appreciate the sequence of letters in Urdu script. While the pupils are practising the drawing of the forms in accordance with the above instructions, the teacher keeps a vigilant eye on the correct position of the thumb and the index finger in holding the pen and on their movements. (b) Next the pupil has to be initiated in drawing a simple curve combined with a straight line. The fingers now come into greater play, and the pen may slip from their grip, but with a little practice this figure can be drawn without effort. At the same time the pupil should be taught where to begin and where to end these figures. Some oblique lines are also given to let the pupil become familiar with the meaning of oblique lines in relation to the corners of the slate. (c) The angular and combined curved drawings are first made by the teacher and then by the pupil with a piece of cord about 18" long and $3/8$ " thick. Every figure so made is next drawn on the board by the teacher and on the slate by the pupil. Thus the pupil goes on from simple line drawings to curves of different sizes and depths, loops and double hairpin curves. The more difficult curves are first drawn in parts, which are later joined. In some very backward cases the writer has used letter forms cut out in sand paper, over which the pupil first runs his fingers several times with his eyes closed, and later attempts to draw them with the form in front of him. It is too much to expect that the hand should draw the letter forms correctly after four lessons, but after the faint pathway between the hand centre and the vision centre is revived by the continual practice throughout the further period of instruction, there is no doubt that in due course by mutual familiarity and understanding between these two centres the hand begins to see and the vision to write these forms.

It may be noted that at this stage no sound value is given to the different forms that the pupil has been practising to draw on his slate.

ای	آ	اے	آ
ē, as ēve.	ā as ānd	ā=ai, as aid	ā as ārm
 پی می	 بے پے	 بے پے	 باناٹا
 پیر	 بیل	 بیل	 بال
 میل	 پیر	 بیت	 ناک
pē, mē. pēr = saint mēl = mile.	bā, pā bāl = ox pār = foot	bai, pai bail = creeper. bait = cane. pair = tree.	bā, nā, tā. bal = hair nak = nose. tap = hoof.

WORD-PICTURE CHART I

Sound Inflections with long vowels

Second Stage : Long Vowel Sounds in two Letter Combinations

Average Time Taken : 23 Periods of One hour each

Association between the visual, auditory and motor speech centres exists already in an adult who is learning to read the written words of his mother tongue. Any word uttered by himself or by another person is at once referred to his memory record on the grey matter of the cerebral cortex, and a picture response immediately results.¹ In reading a written word the hand centre now joins in this alliance by the creation of a new pathway to the allied speech centres. When this route is fully established by practice it is used to advantage by the individual. In the first stage we assisted the hand to become associated with the vision centre. We now want to associate the hand with the auditory and motor speech centres as well. This has been done in various ways by educationists, and every one of the methods used has something in its favour. In the case of adults the writer found the syllabic method the easiest and the quickest to learn. The letters are not named but are given their sound values, as has already been mentioned.² Once this sound value in relation to specific letters is grasped, the reading of recognized combinations of letters forming short sentences follows as a natural sequence.

The Procedure in Detail : (Group I (a) of the consonants)³

Each letter, as it is written on the board by the teacher, is given its appropriate initial sound. The pupil copies this letter on the slate, and also utters its sound. This sound is the first short vowel sound of the mobile consonant. Three or four letters are thus written out, and their specific sounds, corresponding to their distinctive features are emphasised.⁴

When the pupil has acquired intimate acquaintance with these distinctive features in relation to specific sounds, the teacher adds the first long vowel to one of the forms. He writes down the combined form on the board, and gives its significant combined note, e. g., *bā*—*bā*, *pā*—*pā*, and so on. This alteration

¹ See footnote and the relative diagram on p. 16.

² See p. 10.

³ In order to make short sentences easily the first long vowel letter is also included in this group. See fig. B, in Chart on p. 21.

⁴ That is, dots or other symbols above or below the same form. See Chart on p. 11.








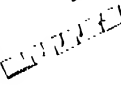







in the note is further fixed in the pupil's mind by some such explanatory talk as follows:—"When we wish to go up to the top of a house we need the aid of a ladder, and we indicate our progress by raising our arm straight up over our shoulder thus †, (here the teacher raises his arm). Similarly, when we add this letter (vowel) to *hi*, a prolonged note is sounded, which is *hii*, and we raise our arm (in the manner shown above) to indicate the direction of the note."¹ In this way the note of every letter, first as a mobile consonant and next in combination with the first long vowel, is voiced as soon as a form is written out on the board, and the direction of the longer note is also indicated simultaneously by the raising of the arm. The pupil at each step copies the teacher in writing, in uttering the specific note, and in raising the arm. Some pupils take only a short time in recognising the difference in sound by the alteration of symbols, or the difference between the short or long notes by the combination of vowel form, whereas the others simply imitate the more intelligent ones, and take time in grasping these differences. The latter class of pupil requires frequent repetition of the lesson under the teacher's individual attention.

If the teacher is satisfied that the first few letters of the group have been grasped by the pupil, he should proceed to write on the board word combinations or even short sentences, formed with these letters. Any such combination, if read out by the pupil without assistance, carries with it the satisfaction of a new possession, and is the best incentive for further effort. The pupil's emotional expression of this satisfaction would no doubt be looked upon by a sympathetic teacher as a valuable reward for his own painstaking effort.

After the pupil has been sufficiently exercised on all the letters of this group with the first long vowel, so that he can read short sentences written on the board, or can write similar dictated sentences, the teacher takes up the second long vowel combinations of this group.² It has been mentioned that there are two forms of the second vowel, and each form has a definite modulation in sound.

¹ See Word-picture Chart I. p. 23.

² It will be seen from the chart on p. 11. that the initial form of the consonant is now altered in accordance with the convention adopted by the calligraphist out of regard for his aesthetic sense. While holding that only one form can serve typing and other purposes in all situations, the writer has retained the current conventional practice. The pupil will no doubt make mistakes in the beginning, but if the importance of dots or symbols, which remain unaltered in every altered form, is pressed home, the importance of form will be minimised and he will learn in due course to use the correct form. See also Word-picture Chart I on p. 23.

او	او	او
ōō as ōōze	ō, as, ōld.	ō, as ōdd.
  پھو آرؤ بو	  کو گو ڈھو	  لو پو بھو
 پھول  رول	 کوٹ  گول	 لو  پود
 بوٹ	 ڈھول	 بھون
phōō, rōō, bōō. 1. phool = flower. 2. rōol = rule. 3. bōot = boot.	kō gō dhō. 1. kōt = coat. 2. gōl = round. 3. dhōl = drum.	lō, pō, bhō. 1. lō = flame. 2. pōd = seedling. 3. bhōn = eyebrow.

WORD-PICTURE CHART II
Sound Inflections with long vowels

Taking the directional illustration as before,¹ the teacher draws the attention of the pupil to these modulations by remarking:—"When we want to cross a deep river we seek the aid of a boat, which moves by floating on the surface of the water thus →, (here the teacher stretches his arm forward in line with the shoulder); similarly, this letter (consonant) in conjunction with this other letter (vowel), which is somewhat like the water-line side-view of a boat, produces the combined note, which travels thus (indicated by the arm) and is pronounced *bā—bai*. And if our pitcher drops down into a well we have to seek the aid of a strong hook for drawing it out. When let down into the well this hook travels thus ↓, (here the teacher lowers his arm straight down towards the floor); similarly, when this letter (consonant) is combined with this letter (vowel), which is shaped almost like a hook, the resultant note also travels thus (indicated by the arm) and is pronounced *bā · bee*". In this way the whole group is combined with both the forms of the second vowel. And as before, words and sentences are at once formed not only with the second vowel combinations but also with the first and second vowel combinations taken together.

After the pupil has sufficiently practised the various combinations with the first and second long vowels, the third long vowel combinations may be taken up. The teacher now remarks:—"If a child cannot walk by himself, his mother will lift him up on her shoulders; similarly, when this letter (consonant) is combined with this (vowel), it produces the note *bā—bō*, and is indicated thus (here indicate with the hand as in footnote).² Again, if we ask someone to carry our heavy luggage up a hill, he lifts it up on his back and shoulders and has to bend down to balance himself. Similarly, this symbol above the letter indicates the heavy load on top and so the note is altered to sound *bā · boo*, and is indicated thus (here indicate by the arm)".³

¹ It was found during experiments that the directional movement of the arm acted as a good corrective to the association of the hand with motor speech. For it was noticed that though the arm was stretched in the direction indicated by the letter form, the note uttered by the pupil was sometimes wrong. But the pupil corrected the note as soon as the teacher pointed out the dissimilarity of the uttered note with the position of the pupil's stretched arm.

² See Word-picture Chart II. The teacher imitates this attitude by bending his arm at the elbow. The hand, with the fingers in the form a cone, is also bent slightly at the wrist, away from the shoulder.

³ Here the former position of the arm is maintained, but the bend at the elbow is let down more towards the ground.

In this way all the groups of consonants with the long vowel combinations, followed by word formations, are practised step by step.¹ The combination of vowels, with their corresponding notes, is now an easy matter after the distinctive letter forms of consonants have been grasped. This largely depends upon the individual's power of concentration and retention in memory. The teacher will be well advised to separate his pupils in batches according to their intelligence.

Third Stage : Short Vowel Combinations

Average Time : 18 Periods of One hour each

At this stage the pupil has to get over three difficult hurdles in the Urdu script, viz.,




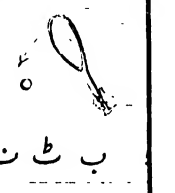


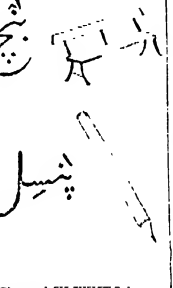

- (a) the different forms of initial and final letters,
- (b) the difference in vocal sounds of both these forms, and
- (c) the difference in the vocal notes of long and short vowel combinations.

In fact this is the most crucial period of instruction. It demands all the resourcefulness, ingenuity, perseverance and tact on the part of the teacher, and tests the intelligence, enthusiasm and industry of the pupil.

The teacher now writes the final form of each consonant by the side of the initial form, and indicates the distinctive sounds of each.² After a little practice with these sounds, the teacher gets a mallet and the school call-bell, or any other vessel giving a resonant note. He strikes the bell with the mallet, and tells the pupil that the sound so produced consists really of two sounds, *i.e.*, of the striking mallet, and of the bell struck. The latter is a ringing note dependent upon the stroke of the mallet. Next he writes the initial form of a letter, say *ba* on the mallet as also on the board, which the pupil copies on his slate, and the teacher and the pupil together pronounce it *ba*. The teacher next writes the final form of a letter, say *la* (*l*), on the bell as also on the board, close to the letter *ba*, and remarks – “Now if I strike this mallet with the *ba* against the bell with the *l*, the combined note produced would be *bal*, (pronounced as in *but*). Thus (going to the board) when I join this initial form *ba* with this final form *l* on the board, the note is

¹ Fig. B in Chart on p. 21, gives all the consonant groups with long vowel combinations.

² See Chart on page 11.

<p>oo as foot</p> <p><i>Round slanting sign on top not to be omitted</i></p>	<p>i as it</p> <p><i>Slanting sign below not to be omitted</i></p>	<p>ẽ as ẽnd</p> <p><i>From sign on top slanting from left to right</i></p>	<p>à=ũ as up</p> <p><i>Slanting sign on top invariably omitted</i></p>
			
			
<p>. bōō, rōō.</p> <p>₁ bōōlbōōl = bulbul</p> <p>₂ rōōk = stop.</p>	<p>pī mī.</p> <p>₁ pīn = pin.</p> <p>₂ mīl = mill.</p>	<p>bē, pē.</p> <p>₁ bēnch = bench.</p> <p>₂ pēnsil = pencil.</p>	<p>bà, tà, nà.</p> <p>₁ bàl = twist.</p> <p>₂ t.àp = tub.</p> <p>₃ nàl = pipe.</p>

WORD-PICTURE CHART III

Sound Inflections with short vowels

short and abrupt **ب** (*bal*), but it is different from **با** (writes *bā*, with the first long vowel), when it is combined with the final form **ل**, which then sounds **بال** (*bāl*, pronounced as in *far*).¹

After some practice with the first (long and short) vowels in several word combinations on the lines indicated, the teacher remarks:—"Now notice that I can strike the bell with the mallet in three different ways. I have shown one of these, *viz.*, from the top; the second is from below, and the third is with a sweep of the arm (if the mallet be heavy), again striking the bell from above. Thus if I place this sign 'ـ' below the letter **ب** on the mallet or on the board, its sound becomes *bī* (in *bit*), and when it strikes the final form **ل**, on the bell or on the board, we pronounce the combined form **بل** (*bil*). Lastly, if I place this other sign 'ـ' above the letter **ب** on the mallet or on the board, its sound will be *bū*, (pronounced as *bu* in *bull*), and when this strikes the final form **ل** on the bell or on the board, we pronounce the combined form **بل** (*būl*)."²

The difference between the long vowels and corresponding short vowels is thus clearly shown. The use of the initial and final forms of letters will be acquired by practice. The pupils should have a chart of these before them all the time. They should be drilled on the first and third long and short vowel combinations, and asked to read or write appropriate words and voice their respective notes. Every word with a short vowel would be a combination of two letters written conjointly or separately according to rule.³ In the case of the first short vowel there would be no sign, but in the case of the third short vowel a sign 'ـ' would be placed above the letter. On the other hand, a word with a long vowel would have the first or third long vowel interposed between the initial and final consonant, and would thus have three letters. The first two letters would be written separately or combined together, but the final letter would remain separate in every case.

When words and sentences have been fully practised on the above combinations, the second long and short vowel combinations may be taken up. The second long vowel has a conjunct medial form, and therefore it is invariably written conjointly with the final letter, though it may or may not join with the initial letter according to rule. It has been pointed out that this vowel has two

¹ See Word-picture Charts on pp. 23—26.

² See Word-picture, Chart III, p. 26.

³ See rules on pp. 28 and 29.

directional notes, which cannot be distinguished in the existing medial form of this letter. For indicating this difference in notes a symbol has been suggested.¹

In the case of the second short vowel there would be a sign '—' below the letter; and the long vowel in its conjunct form would be with or without a symbol, e.g., میل (*mil mix*), میل (*mail union*), میل (*meel mile*).

For a quick practice in the class room a revolving disc showing all the eleven modulations may be used. In an illustration of this on this page the long vowel and the corresponding short vowel notes are shown in each compartment of the black pointer. The short vowels are nearer to the centre of the disc, whereas the corresponding long vowel combinations are in the same line further on. The final letter forms are shown at the margin of the disc just beyond the edge of the pointer. Both the short and the long vowels are joined in turn with each one of the final letters in line with them in the respective columns.²

The following three stages overlap each other during instruction. In fact some part of the ground detailed in them has already been covered in the previous stages. The average period for these three stages taken together is 15 lessons of one hour each.

Fourth Stage : Joining Together of Letter Forms

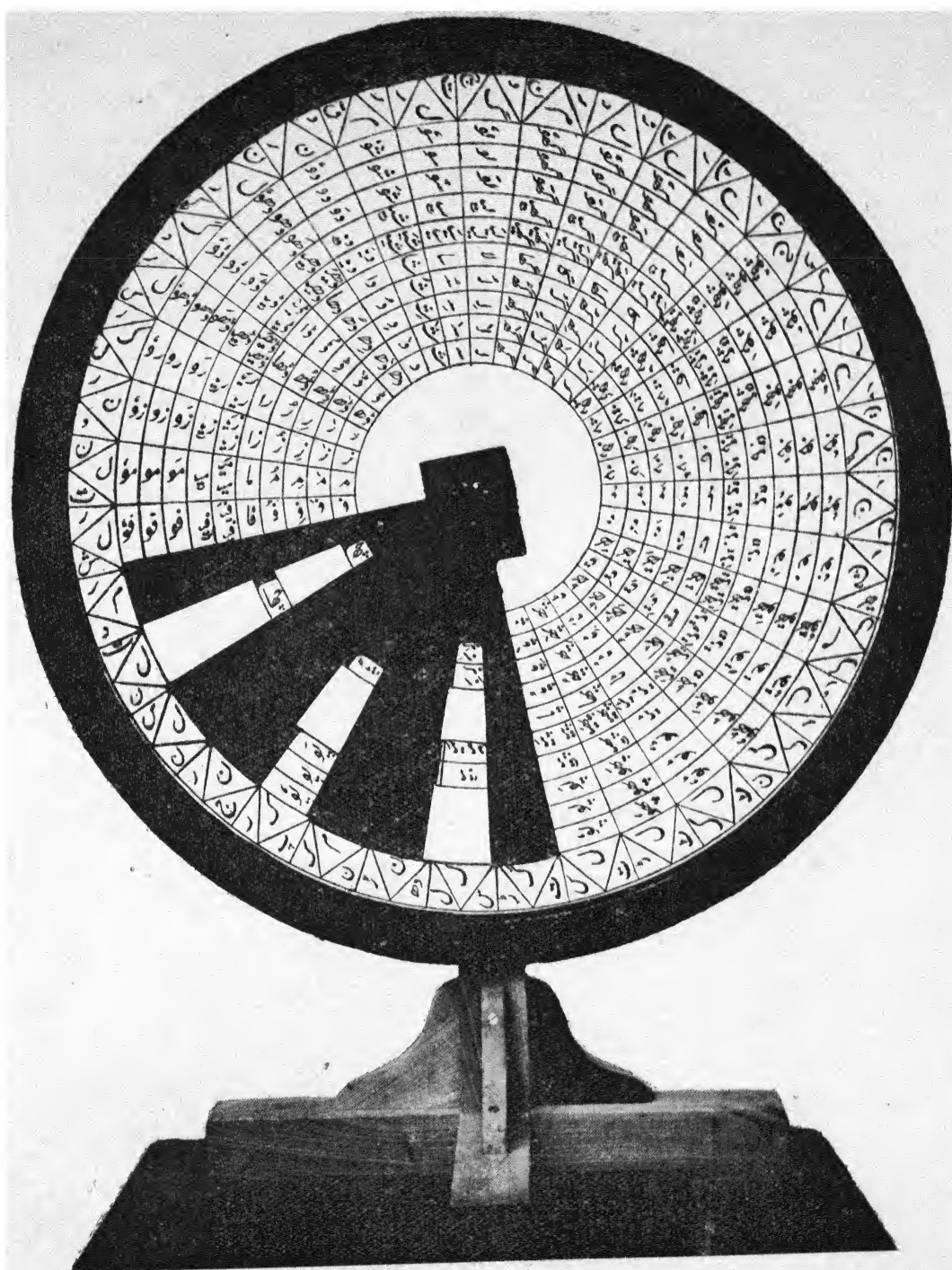
It is important that the rules given below should be strictly observed, for the sounds cannot be correctly produced by insufficient or wrong markings.

1. All letters must have their distinctive symbols.
2. Short vowel symbols, excepting the first short vowel symbol, must be correctly placed.³
3. Symbols indicating modulation, pitch, reduplication, etc., must be shown.³
4. All letters in a word, excepting those mentioned in rules 6 and 7 below, should be written conjointly. In this case the final letter alone will have its full form, whether written separately or jointly.³

¹ See p. 32.

² During the practice in the classroom the pupils are also enlightened on the variation in notes of the second and third long vowels, for which the suppressed symbol of the first short vowel has been utilised. See pp. 13 and 14. These variations are shown on the disc.

³ See Word-picture Charts, pp. 23-26.



Revolving disc for practising long and short vowel combinations

5. A compound word must be written in its separate component parts, e.g., اُس کے لئے (ōos-kai-lī-ai=*for him*).
6. The letters of group 2, mentioned in the chart on page 6, when forming a whole word, must remain separated and must be written in their initial forms in all positions in that word, e.g., دروازہ (dār-wāz-ah=*door*).
7. In combination with other groups the letters of group 2 must be joined to the preceding letter or letters, but they must remain separated from those that might follow to form a complete word. Thus a letter of this group at the beginning of a word would be written by itself but would behave like any other letter in this position to help the remaining letters in producing the sound of a complete word. Similarly, a word may have two or more conjunct combinations without syllabic significance whenever a letter of this group intervenes, e.g., پالو گے (pā-lōn-gā=*will tame*).
8. One form of letter *h* must be reserved for those instances where the sound of *h* is compounded with the preceding letter. It must not be used in situations where the sound of *h* must be uttered independently, e.g., بھاری (bhā-ree=*heavy*), بڑی (Bī-bāree=*name of Krishna*).¹

In connection with rules 6 and 7 above, it may be pointed out that all the letters in group 2 have the same form as those in the word اُردو (Urdu). The following story tends to illustrate the rules and may deeply impress the pupils:—

In the time of the Mughal Emperors the army with its followers was called اُردو. This consisted of different companies of men from every part of India. Each group of men had its own prejudices in the matter of food, mode of life, religious observances, etc. On active service they formed themselves into an army battalion and stood shoulder to shoulder, but always in their own particular batches. If an alien joined their unit he was tolerated as a follower, never as a leader. Similarly, all the letters, which have forms alike the letters in the word اُردو, are written as separate units; they are joined to the preceding letter or group of letters, but not to a letter that comes after them.

¹ See Charts on pp. 11 and 21 (Fig. B).

In Urdu script some letters have approximately similar sounds. They must be taught at a later stage for the correct spelling of Arabic and Persian words in common use in Urdu language.

Fifth Stage : Notation as Used in Urdu Script

A chart on this page shows all the symbols in common use in Urdu script and their significance. It is not unusual to omit them through carelessness. It must be remembered that for instruction on correct phonetic lines the use of symbols is of great help to the pupil in getting the perception of correct sounds, and that their omission causes confusion in his mind regarding the true character of these sounds. The proper use of these symbols has been fully explained in the chart. Most of the symbols for distinguishing different sounds of the same letter forms have been dealt with in the first stage, and those required for indicating vowel inflexions have been practised in other stages. In addition to these there are a few others, which are used for indicating the peculiar behaviour of letters in certain situations. These should be practised now.

Sixth Stage : Orthography and Pronunciation

In the phonetic sense spelling is the breaking of a word into different sound factors, and pronunciation is the utterance of the assembled articulate sounds. From this point of view the import of notation is the *sine qua non* of correct pronunciation. If the pupil has grasped what he has been taught up till now, he will automatically read and write every word—simple or complex—fairly correctly. The behaviour of letters in different situations is now noted for further guidance.

*Two letter words with short vowel, and three letter words with intervening long vowel have already been practised.*¹

Three letter words with a long vowel at the end: The initial mobile consonant would give out its short vowel note, and the remaining two letters a long vowel note,² e.g., رَاجَ (rajā rang), پِچَ (pīchā crushed), گِرَ (gōgā gren).

Three letter words without a vowel letter: In this case the first two letters are charged with short vowels. The first letter would give out its own note independently, and the second would combine with the third with the aid of its short

¹ See Word-picture Charts, pp. 23-26.

² If there is no sign on the initial letter it would give out the first short vowel note, if there is a sign, then the second or third short vowel note, as shown in the examples.

III. Signs (symbols) commonly used in Urdu script, and those now suggested

(1) Signs to distinguish letter forms

Top or side form of / following any vowel	as	کئی	(Several)	کائی	(scum)
Top or foot of letters to distinguish specific sounds of letters similar in script
Top of letters—to indicate hardness in similar sounds	as	بُرا	(bad)	بڑا	(big)
Letter form, slightly altered to distinguish this, the long vowel form, from the consonant form و	as	بھون	(eyebrow)	بھون	(house)
Foot of letter, a distinctive sign of conjunct form of letter ہ	as	ہمارا	(our)	دہی	(curds)
A form of letter ہ, for compounding 'h' sound with previous letter	as	کہا	(said)	کھا	(eat)

(2) Signs to distinguish inflexions in vowel sounds

Top of / —really vowel / placed above initial /	as	آ	(come)	آج	(today)
Foot of dots of conjunct form of 2nd vowel, i.e. ۛ, to indicate intensity of note.	as	بھیڑ	(sheep)	بھیڑ	(crowd)
Top of 3rd vowel to indicate intensity of note	as	لو	(take)	لو	(hot wind)
(a) top of letter, 1st short vowel sign, invariably omitted,	as	نر	(male)	ٹن	(ton)
(b) to indicate inflexion in 2nd and 3rd long vowel sounds,	as	لو (take),	(Flame)	کے (of)	(how many)
(c) Foot .. 2nd short vowel sign, to be shown	as	اس	(this)	سن	(age)
Top .. 3rd short vowel sign, to be shown	as	اس	(that)	سن	(listen)
Top .. to indicate short vowel sound corresponding to long vowel sound of ے	as	مشکا	(dear)	پنسل	(Pencil)

(3) Other signs.

Top of letter, to duplicate same sound	as	کچا	(raw)	سچا	(truthful)
Top of letter, { (a) to indicate half sound of ن (final n)	as	نان	(agree)	مان	(mother)
(b) to carry sound of a preceding letter or a combination of letters over the half sound of this letter	as	موند	(noise)	پرند	(bird)
(c) to act as syllabic hyphen, when this is not indicated in any other way	as	تمنیچہ	(pistol)		
Top of two letters, to indicate combined sound of two consonants. (Common in Hindi and English words)	as	سکول	(school)		

vowel. In some cases the second letter would have the symbol 'ا', indicating that the second and the third letters formed a double consonant, and the first letter on striking them would produce their mixed sound, e.g., لپٹ (lī-pīt embrace), نشٹ (nāshṭ--destroyed).

Four letter words with a long vowel: The position of the long vowel is the guide to the joining of letters:—

- (a) If the second letter is a long vowel, the two letters following it would give out a short vowel combination note, soon after the long vowel combination note of the first two letters. In case the symbol 'ا' is placed on the third letter, the long note would be carried over the third letter to the fourth, e.g., بارش (hā-rīsh -rain), گھونٹ (ghōṇṭ -gulp).
- (b) If the third letter is a long vowel, the first letter would give out its short note independently, and the remaining three would give out the long vowel combination note, e.g., کپاس (kai-pās cotton plant).
- (c) If the fourth letter is a long vowel, the first two letters would give out the short vowel combination note and the third would give out the long vowel combination note after combining with the fourth letter, e.g., پٹنا (pit-nā to be beaten). The symbol 'ا' is sometimes placed on the second letter, if it is an *n*, to indicate the half sound of this letter in this position, e.g., تنکا (tin-ka straw), لونگی (lōongee -wrap).

Four letter words without a long vowel: In this case the first letter would join with the second, and the third with the fourth, and would give out their respective short vowel combination notes. The symbol 'ا' on the third letter would indicate that the first letter would give out its short vowel note independently, and the second would strike the third and fourth letters as a double consonant, e.g., پالتن (pal-tān army), پالنگ (pai-lāng -bed).

Five or more letter words would be dealt with on similar lines. If there is no long vowel in these words, it is advisable to place the symbol 'ا' to indicate the syllabic break, e.g., تمانچہ (tai-mān-chāh pistol), پاہلوان (pai-hāl-wān wrestler). It should, however, be remembered (i) that if any letter of group 2, other than a vowel, breaks up a word into two parts, the break is not necessarily syllabic; and (ii) that if the form of *b*, which acts as a double consonant when combined with the preceding letter, has to be written separately from its partner, this would neither be a syllabic break, nor would its partner be deprived of the

double consonant sound, e.g., ڈھونڈ (dhōōn-dō search).¹

The reduplication of the same consonant sound is indicated by the symbol ‘w’ over a letter in the medial position. For the reduplication of the same sound initially, the letter must be written twice; and if the same sound has to be given out three times in succession, then the symbol must be placed on the second letter, e.g., کُکُ (kuch-chū ram), لُلی (lilī boy), بابُ (Bāb-bāō a name).

It has also been explained in the chart on page 31 that whenever the sound of *a*, is given out after a vowel, the letter form ا is changed into آ, e.g., نی (ni-āee new), کِآ (kī-āēē any).²

Double consonants do not occur in the initial position in Urdu. Hence many words borrowed from Bhasha or English are incorrectly pronounced because of lack of proper notation. The symbol, ‘u’, over the double consonant will get over this drawback; e.g., پُرانی (pran life), سٹیم (steam). In words with three dormant consonants in succession, the use of both symbols ‘h’ and ‘u’ is called for; e.g., فہرست (firist), مازکس (marks).³

Arithmetic

In this course Arithmetic is also included. The writer found that some of the pupils could not count up to thirty. They were first taught counting up to hundred. Then they were taught figures of numerals by means of a chart shown on this page. They learnt the figures in no time after seeing the illustrations with the explanation noted below :—

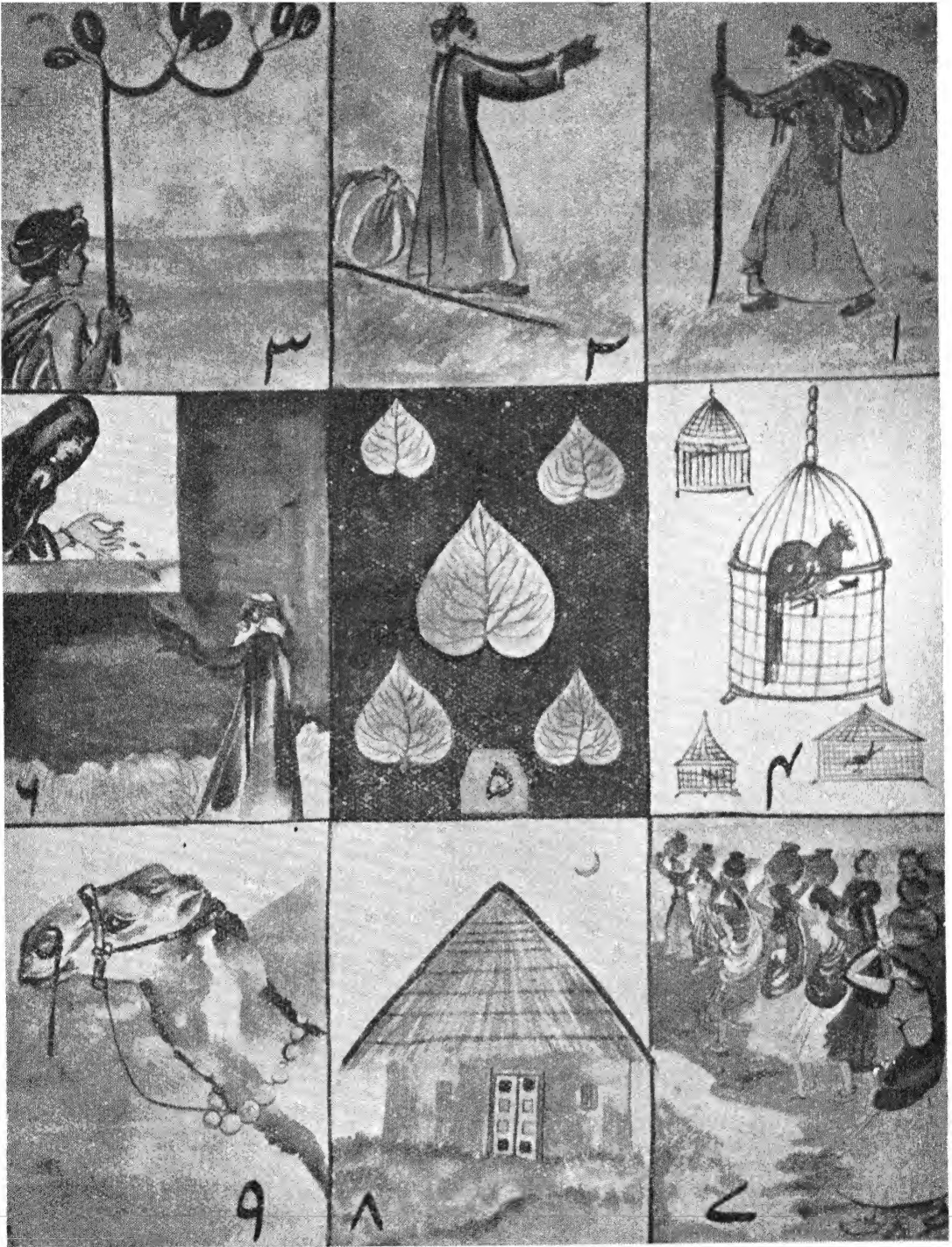
Figure 1. The stick in the hand of the traveller is numeral 1 (1).

- „ 2. Note the curve of the arm of the traveller as he lifts up his hands for prayers when he sees the new crescent moon. This curve with the adjoining part of the body is numeral 2 (2).
- „ 3. The trident in the hand of the balloon seller represents numeral 3 (3).
- „ 4. In the four cages there are four birds. Starting with the curve of the neck of the largest bird the acute angle is traced on to the

¹ A double consonant with *h* is looked upon as a single letter. See group 3 in Chart on p. 11, and Fig. B. in Chart on p. 21.

² See Charts on pp. 12 and 30.

³ See Chart on p. 30.



Wall Chart Illustrating Numerals

back of the body down to its tail. This represents numeral \curvearrowright (4).

Figure 5. There are five betel-leaves shown here. The figure of numeral \circ (5) is self-evident.

- „ 6. A beggar lifts his arms to catch six coins, which a lady is throwing down to him. The curve of the arm is the reverse of figure 2, and it now represents numeral \curlyvee (6).
- „ 7. Here we see seven girls carrying pitchers over their heads and using their left hands as supports to the pitchers. The numeral $<$ (7) is represented by the arm and the forearm in angular position.
- „ 8. The contour line of the roof of the house represents numeral \wedge (8). Note that there are eight panes in the door.
- „ 9. The looped leash with its straight end-piece represents numeral η (9). Note that the camel has a string of nine beads round his neck.

The units and tens were next taught on sets of beads and on rods devised by Dr. Montessori. Then sums in addition, subtraction, multiplication, division, and in some cases even compound addition were attempted. A bright pupil could do simple division at the end of the course.*

The full course of instruction, as indicated above, takes on an average sixty lessons of one hour each.

* In the illustration on p. 7 a sum in subtraction has been worked out by the pupil on the 29th day of instruction.

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